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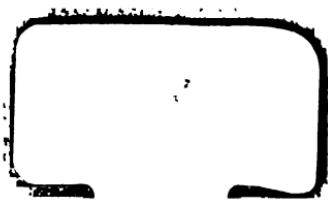
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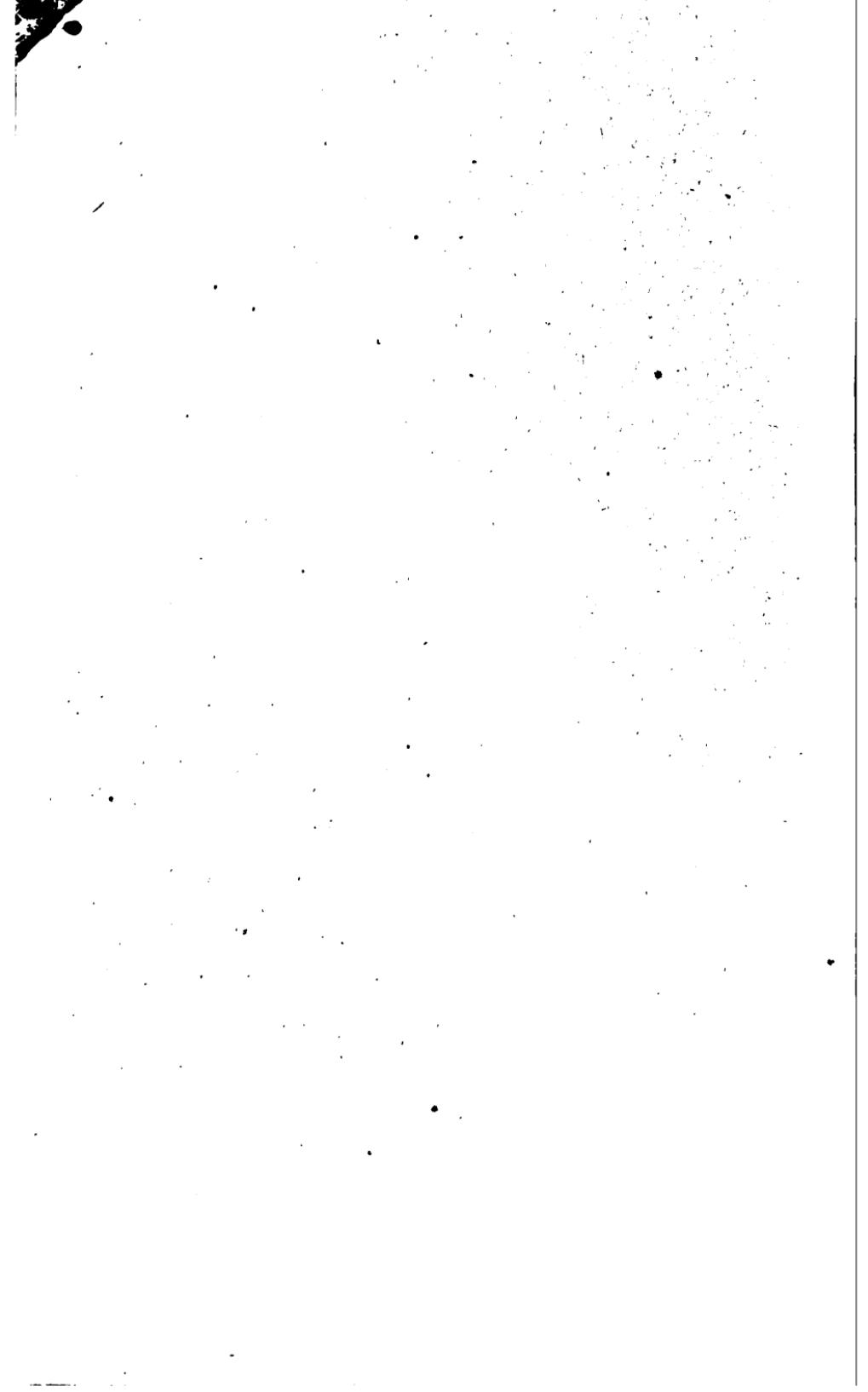
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Tompkins School Monographs

NO. 3.

ETHOLOGICAL OUTLINES

—BY—

Thos. P. ^{Barce} BAILEY, Jr.

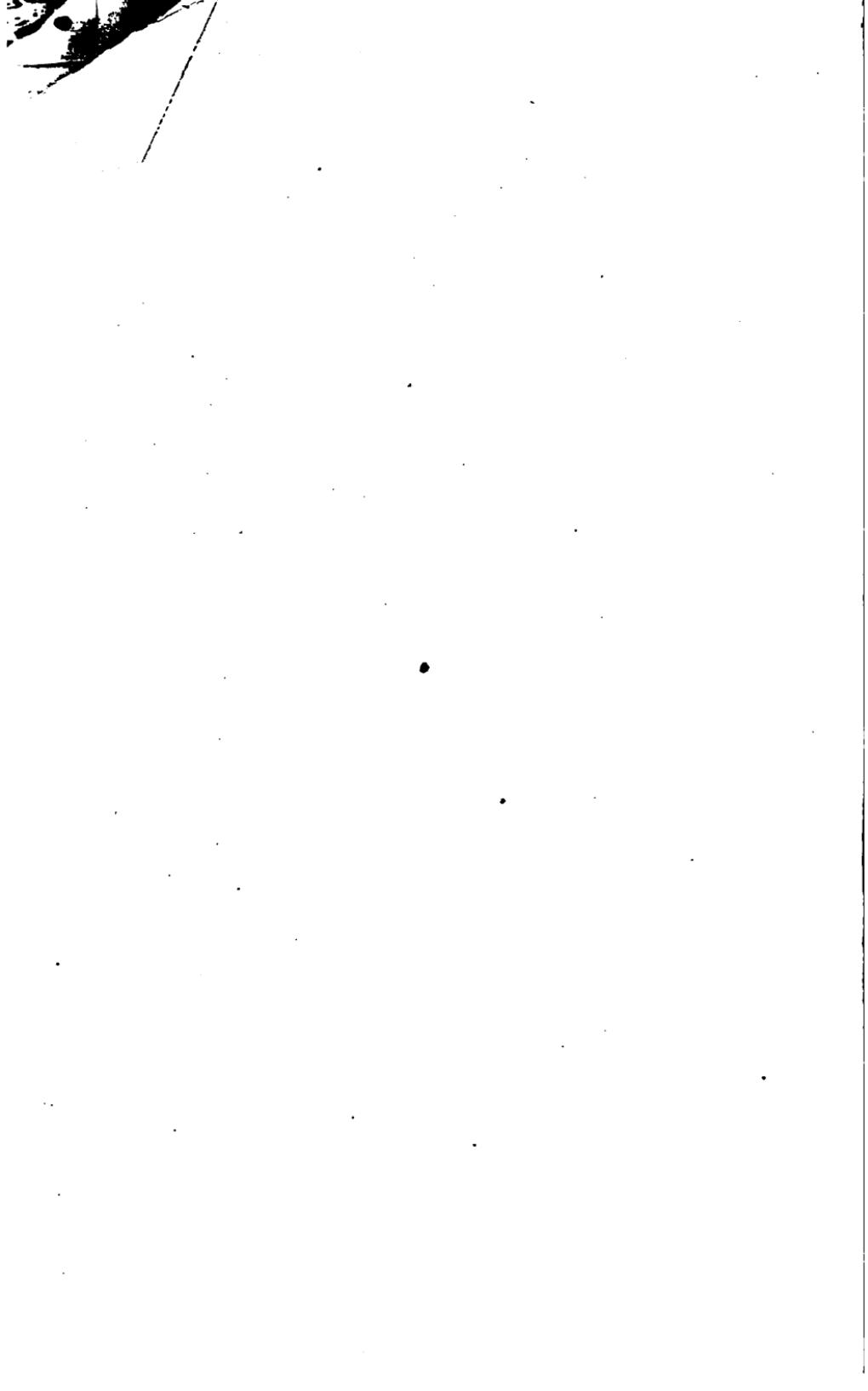
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PREFATORY NOTE.

The Tompkins Grammar School of the Oakland School Department still continues to be the Observation School of the Department of Pedagogy in the University of California. Its general purposes have been described by Prof. Brown in Monograph No. 1. As the present writer has been put in charge of the University's interest in this work he thinks it best to outline the ethological and educational views that will serve for a guide of the school's pedagogical endeavor: In addition to Principal Markham and the teachers of the school who continue their faithful co-operation, Dr. Nathan of San Francisco and Dr. Von Adelung of Oakland, both connected with the medical department of the University, and Miss Myrtle Walker of Berkeley, a graduate of the University of California and of the Boston School of Gymnastics, may be mentioned among the helpers. Professor Brown and Professor Dresslar continue their interest in the school, and Professor Brown stands ready to give aid and counsel to any and all of us. Mr. T. L. Heaton, Fellow in Pedagogy, who is in charge of the visitation classes, gives valuable personal help to the teachers of the school. Mr. E. H. Benson, graduate student in Ethology, has been assisting the writer in all of his Ethological work and will do special investigational work at the school during the coming term. Superintendent McClymonds and the Board of Education evince every desire to give free scope to the Department's work in the school, and continue hopeful of the school's future in spite

of its rapidly changing population and the consequent poor experimental conditions that can be had under such circumstances. The following Ethological outlines are not intended for the general reader, nor for the philosophical or scientific specialist, but are put forward because they will prove useful to those working in the school, and may give some hint of the scope of Ethology, which John Stewart Mill long ago claimed must be the basis of any true science of education. The best service that philosophical and scientific writers can offer to this work is to criticise the views herein expressed, if they can manage to understand the summary statement of them.

Thanks are due to Mr. G. T. Winterburn, Instructor in the Department of Industrial and Decorative Art, for valuable assistance in the execution of the diagram illustrating the psychological aspects and the table illustrating the development of the instincts.

THOS. P. BAILEY, JR.

University of California, Nov. 9, 1897.

INTRODUCTION.

The following sketch is intended to give in a meager way the standpoint, the method, the principles of Ethology. Forty years ago John Stuart Mill and Alexander Bain told us that the practice of education ought to be based upon a science of education which would involve a science of character to which Mill gave the name Ethology. The writer's view of such a science while including that of Mill and Bain is not based upon empirical psychology, but rather upon the biological sciences on the one hand and a philosophical conception of the world on the other. Concrete and generic personality is our theme. While the mode of the development of character is analogous to that of biological development, the facts of human personality, of human freedom are accepted as axioms of Ethology. Hence for us "the end is in the beginning."

In human character animal consciousness is prophetic of self-consciousness and self-consciousness is prophetic of conscience. Our genetic scheme of the factors of character must include the individual's intellectual growth on the one hand and his institutional progress on the other, while carefully attending to his central personal development from biological consciousness through taste and talent to rational and faithful conscience. This individual development is not conceived as apart from that of other individuals, but as having no significance unless other individuals have like development, for an individual's very self, his talents, his tastes and his conscience, could not exist without institutional influence. On the other hand the fiction of society as an organism is not taken for granted. Society is organic only because its individuals are and mutually impose the law of their nature upon one another instinctively. So far as we are physical beings we interact in an organic way because the "Laws of Nature" when properly understood are organic

rather than mechanical. A person develops for the sake of a "City of Souls" of which he is a necessary member. The "City of Souls" becomes only for the sake of its members of whom God is the integrator.

The law of development as here conceived is the change from the fundamental to the accessory through differentiation and integration. The first stages exist for the sake of the last, and yet at the same time for their own "relative perfection!" Thus while we are animals in order that we may become men we must be good animals not only because thus we may become the best men, other things being equal, but because it is a good thing to be relatively perfect—to correspond with our environment at every stage. Thus while our "spontaneous variations" and "inherited traits" develop into the backbone of our personality they must all along the line be inoculated by intellectual and institutional acquired characteristics.

So while the organism progresses toward the goal of living for his work at each stage of his development he works for his living, or corresponds with his environment which consists of things and people, nature and humanity, ideas and institutions. If life be a "moving equilibrium" the character must have self-movement and self-guidance as well as a medium in which it moves and is guided. Our instincts, or connate tendencies direct us both in the work for our living and in the living for our work. There is a hierarchy of them in which the animal are subordinated to the human, the self-conscious to the righteous, the "intellectual" and institutional to the deeper insights, and supremely to the conscience as well as to one another. The main line of development is thus from life, through taste, to conscience, but life must get its material for its growth from things and people; taste must differentiate through insight and faith; conscience must eventuate in truth and devotion. The care of the developed character must be spontaneous, enlightened, historical conscience that works for its living and lives for its work, that has its best play that it may do its best work, that seeks first the "Kingdom of God and His righteousness" and has all other things "added unto" it. But guidance and motive are not enough in a moving equilibrium. Self moves through *emotion*. Our instincts guide our emotions and thereby give them value. Our emotions give organic, kinetic efficiency to our instincts.

Hence our emotions are classified according to the self's modes of reaction—expansion, contraction, tension, whether by joy or love, grief or fear, surprise or anger. Finally there must be a medium for the moving equilibrium to act in, whatsoever its organic reaction, whatsoever its organic guidance.

This universal medium is feeling—pleasure and pain, which partially produces the organism and is partly produced by it. As the instincts constitute our motives, our summatizing and inhibiting powers, education in the school must direct most of its efforts towards directly or indirectly

affecting our guiding powers. Thus we may conceive of education as intended to bring about three results.

(1) Nurture for Instinct. Through "many-sided interests" in organic connection and subordination we seek to make the child alive all over, eager to respond to all the changes in his environment, to work changes thereon in order that he may do his best work for the kingdom of which he is a member.

(2) Training for Habit. By grouping together our useful fundamental instincts, by making them co-ordinate, rhythmic, habitual we turn function into structure and prevent interference of the lower nature with the higher. We mechanize our character results, as we need them, to act rhythmically. Hence we train or practice the outgoing side of our instinctive activities, turning exercise into habit and, when there is need, habit into automatism. Thus through habit-training we combine mechanism with spontaneity. Habit is the fly-wheel of the soul that keeps the finest and most human-like machinery steady at its appropriate work.

(3) Development for Aptitude. Character is individual and personal, hence its most spontaneous variations ought to give tone and color to all of its activities. Our aptitudes ought to stand for the central organic line of character. All of our habits and instincts should, as far as possible, receive the vivifying touch of our talents. Thus while our instincts and habits enable us to work for our living, the talented aspects of our instincts, or our aptitudes, enable us to live for our work.

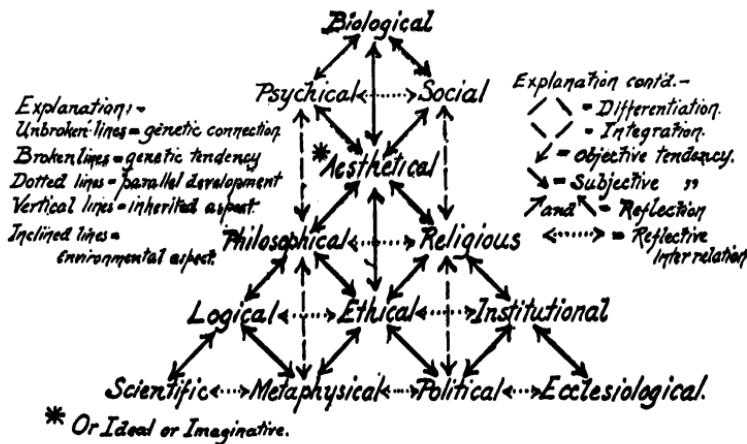
Development of the Instincts.

Reference to the diagram (Table 1) will show a genetic scheme of the development of character through the hierarchy of its guiding instincts. Such a scheme is necessary for the philosophy and science of character and their application to education in all its forms.

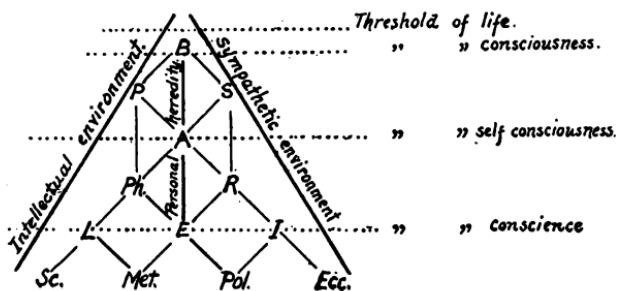
First of all are the Biological Instincts whose deepest meaning is metabolism in the organism and the "outward" metabolic processes whereby it corresponds with its environment. The seeking for food, the need for exercise, the feeling of biological satisfaction or tonicity are all phases of this molecular and molar correspondence. Unless the biological needs are satisfied we cannot expect to find indications of higher consciousness. When the animal is in good biological trim we may expect to find him showing something akin to animal curiosity, love of new sensation, impulse, etc. Here he provides raw material for invention and in the case of the human animal these Psychical Instincts with their dependence upon the "manifold of sense" furnish the raw nature material on which self-consciousness works. But the Social Instincts develop (ideally) *pari passu* with the psychical. After the animal's biological needs have been met its social instincts begin to crave satisfaction for their own sake. We see this most clearly in animal play and we can observe it very early in the infant who has received much attention from his social environment. Thus we may prophesy the begin-

TABLE I.

A. The Instincts, showing the Development of Character.



B. The Instincts, showing the relation of heredity to environment.



ning of "invention" in the psychical instincts and of "imitation" in the social instincts. At the very start invention is seen to be central or intellectual and imitation peripheral or institutional. Of course the psychical instincts are also peripheral, and the social instincts also central, but the psychical prefigure the "laws" of mind and nature and the social the "activities" of life and its institutions. In the child it is doubtful whether we ever find the psychical, the social or even the biological free from indications of their human nature.

When we come to the æsthetical or Ideal Instincts we pass from consciousness to self-consciousness, from animal to man. They evidently contain the fulfilment of biological promise in that they stand for the self-conscious results of spontaneous variation. They are the essence of individuality, the primitive self-consciousness, the first form of personality. "Tastes differ." "Everyone according to his taste!" "There is no accounting for tastes." "The poet is born, not made,"—all these expressions point to the biological origin of the æsthetical instincts. This mode of expression is of course intended to be scientific rather than philosophical, for, as has been said before, the "end is in the beginning," when we study character from the metaphysical standpoint. We have thus represented the biological as striking straight down into the "free grace" of individuality, and at the same time differentiating into the psychical and social instincts. We now consider the æsthetical as constituted by the biological, psychical and social, plus the differentia of self-consciousness.

We may indicate this idea in another way by calling the biological-æsthetical line the factor of heredity and the psychical and social wings the environment of nature and fellows respectively. In human development the æsthetical instincts contain the "promise and potency" of all subsequent differentiations and integrations. The psychical instincts impregnated by self-consciousness will lead to our "philosophy" and "science." While our social instincts similarly fertilized will eventuate in religion and institutions. The psychical aspect of the æsthetical seems to furnish material for invention whereas the social aspect leads to imitation. The element common to both invention and imitation is that preferential choice of the thing for its own sake which is the biological inheritance of the æsthetical. When I value something "for its own sake," when I exalt my experience because it is *my* experience, I am beginning the life of ideality, which comes first rather in the form of "feeling," as is indicated by the term æsthetical. It is a commonplace of psychology that our first estimations and valuations of things and people come to us rather as intuitive apprehension than as intellectual comprehension or institutional activity. Reference to the child's æsthetical instincts shows us its proneness to personify things and to realize persons; hence the alternative names for the æsthetical—ideal, imaginative, intuitive, individual.

Like the biological the æsthetical tends to strike directly into a higher plane on the middle line of "heredity" or "free grace," and at the same time to differentiate into intellectual and institutional aspects environmentally initiated. Thus we get our religion through æsthetical imitation, and our philosophy through æsthetical invention. Whereas the inmost root of our ethical nature seems to be derived from the "spontaneous" imitation-invention of our individuality. One point of difference between the Philosophical and the Religious Instincts must be noted at this place. The philosophical, springing as it does from the inventive or intellectual side of the æsthetical, shows itself most characteristically in its central or intellectual contributions to our life. The religious, developed from the imitation aspect of the æsthetical, contributes to the peripheral or institutional side of character. We thus have the old antithesis of Reason and Faith. But a strong antithesis frequently points to a higher synthesis or integration.

Faith and Reason find their union in conscience, their divergence in the Institutional on the one hand and the Logical on the other. Even this divergence is differentiation rather than opposition, for on the one hand the institutional will eventuate in the state (Political) and thus become our "objective conscience" which each one of us helps to make; and on the other hand the logical will affect conscience through the reflective contact of our metaphysical life-principles with our conscience. But the relation of the Philosophical to the Ethical Instincts, and of the religious to the ethical is what concerns us just at present. The philosophical instincts give us an "æsthetic (æsthetical) revelation of the world." The religious instincts give us an æsthetical revelation of ourselves as social members from the standpoint of some higher personality whom we reverence and upon whom we depend. Thus the philosophical instincts give us a reverence for Reason, and the religious instincts a reason for our Reverence. Our true ethical personality must exemplify the objective laws of the universe and must therefore be philosophically rational. At the same time our character must depend upon institutional laws of the universe and must reverence social ideals. Our faith must be reasonable and our reason must be faithful. Irrational faith and a sterile reason that contradicts our institutional activity are abstractions that interfere with the proper development of character. Conscience is thus objective in two ways—in rational thought and in our allegiance to institutions. Of course the mere philosopher, or the mere theologian cannot see this balance of conscience, although he may use many words to express his sympathy with such a view. To see the supremacy, the manifoldness of conscience a man must look at life as a man, and therefore from the Ethological standpoint. Not only does the philosophical differentiate into the ethical, but also into the Logical Instincts; so too the religious instincts becomes Institutional as well as ethical. Our "æsthetical revelation of the world" tends to become crystallized into

thought-forms. Here "truth for its own sake" rather than truth for the sake of conduct-guidance holds sway in character, and the logical instincts serve to parallel and balance the ethical.

Thus we seek truth as well as right and it is a matter of philosophical insight as to how these two seekings are genetically related. It is in naive philosophy that truth and right get related to the primitive æsthetical revelation of the world. For the instinctive philosopher right is truth of character and truth is right in nature. Not only do the religious instincts furnish us with an institutional revelation of our own selves considered as actors in life, but also with practical insights of our membership in the social order. We seek the truth of institutionality, community of custom, devotion and loyalty to the institution as such. Here external but loyal conformity of the social life balances our imitation of ideal personalities; just as in the logical we balance the subjectivity of the ethical by objective truth so in the institutional we balance duty with custom. Hence conscience cannot claim the religious instincts as a justification for "private interpretation" of the "revelation" given by revered personalities (æsthetical). Not only must one have a conscience but one must realize the objectification of the divine conscience in the institutions of society.

Turning once again to the "left wing" of character development we find logical invention differentiating into the Scientific and Metaphysical Instincts. The scientific represent our disinterested logical activity; our metaphysical instincts stand for the life principles that grow out of our philosophically derived logical instincts. The scientific instincts give us the energizing aspect of truth, and the metaphysical give us its infinity. Hence we find the scientific concerned rather with our thing-hood while the metaphysical are more intimately concerned with our self-hood. A man's scientific principles may in no wise directly affect his conduct, but metaphysical life-principles lead to reflection on the relation of the eternal *is* to the eternal *ought*. Science affects our metaphysics through the logical instincts common to them both, and in such a case only through reflection and not in any genetic way. Here again science and metaphysics are parallel rather than contradictory, and the more objective and the more subjective worlds balance one another.

On the "right hand" side of our scheme we find the institutional differentiating into the Political and Ecclesiological Instincts. This scheme is the peripheral analogue of the central logical development. The undifferentiated institutional instincts that relate to the family, the tribe, the clan have become differentiated in the course of history into state instincts and church instincts. Like the scientific instincts the ecclesiological are, or ought to be disinterested. Like the metaphysical they are more subjective than objective; hence the apparently insistent effort of the church of the past to bind men's consciences. However right this may be in *reflection*, through the influence of the eccl-

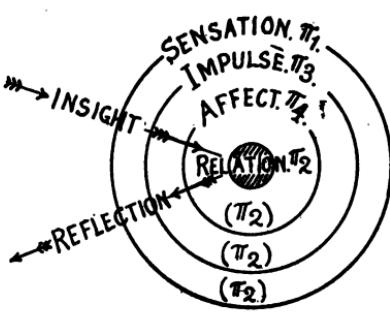
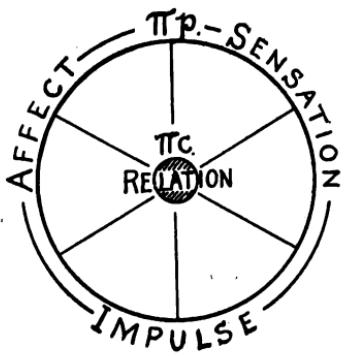


FIG. 1.

FIG. 2.

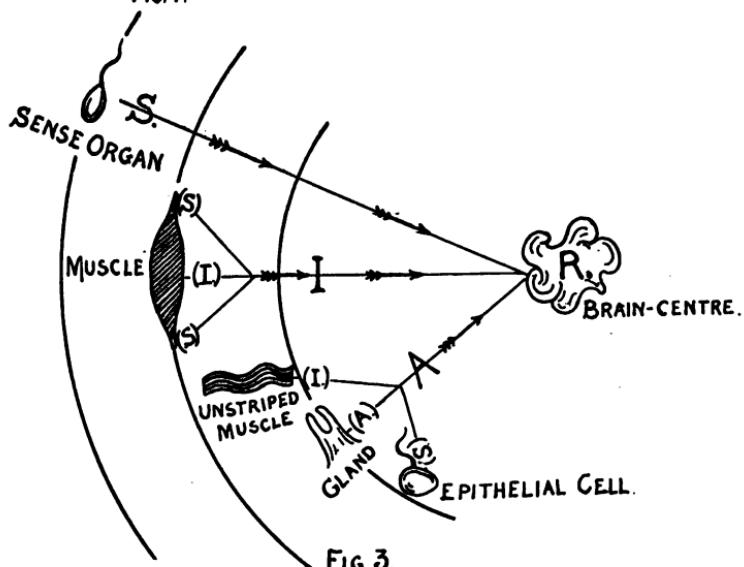


FIG. 3.

siological on the institutional and the religious—and even on the aesthetical, it ideally is not and really ought not to be so in the *development* of character. The political instincts also become differentiated from the institutional and have taken turns with the ecclesiastical in claiming the exclusive divine right of institutionality. The attempted establishment of the dogma of the "divine right of kings" was an attempt to connect the religious directly with the political by making family loyalty and church interests accessory to the deed.

There has been a similar attempt on the intellectual side, by making metaphysics proceed from philosophical insights, by ignoring ethical personality as the center of truth and right, and by lugging in logic and science as aiders and abettors of metaphysical insolence. In such cases the only logic deemed worthy of existence is a logic that will safely establish a certain metaphysic. Here logic and metaphysic are made one by metaphysic swallowing logic, having previously prepared logic to suit its taste. Nowadays certain representatives of science, in claiming the exclusive right to logic and philosophy, attempt to shoulder metaphysics into "metempiric" and to construct the life of conscience on the basis of disinterested matter and motion. But science and metaphysics can be safely left to balance each other, and thus help secure the equilibration of the personal life in the City of Souls.

The political instincts are like the scientific in being more empirical and objective and like the metaphysical in being more closely connected with ethical conduct. We *may* go into the church, we *may* stay in it; we do come into the state and we *must* stay in it, or else stay in some other state.

Coming back once more to the central line of development we find that conscience is the supreme core of character—the central nervous system of our personality. It is rather significant to find a conscientious character of the higher type gathering in truth from the intellectual side of us through metaphysical principles imposing righteousness on our intellectualism as a pre-requisite for its acceptance by the character as a whole; and yet, on the other hand, reaching out for all that the historical development of society can give it, but insisting that existing institutions shall evolve only in the direction of the Kingdom of God and his righteousness.

CENTRAL AND PERIPHERAL PSYCHOLOGICAL ASPECTS.

We must now study the psychological aspects common to all the instincts whatever their grade of development. This portion of our work will be all the more difficult because various meanings have been attached to the terms which we shall employ. At this early stage of ethological thought perhaps we had better state the psychological aspects by an appeal to the imagination. Let us suppose that our mental life in all of its instinctive tendencies is composed of a central core

The Instincts, Showing Psychological Aspects.

BIOLOGICAL—

- | | |
|-----------------|----------------|
| 1. Nutriment. | 2. Metabolism. |
| 3. Spontaneity. | 4. Tonicity. |

PSYCHICAL—

- | | |
|---------------|--------------|
| 1. Sensation. | 2. Relation. |
| 3. Impulse. | 4. Affect. |

SOCIAL—

- | | |
|--------------------|--------------------|
| 1. Company. | 2. Relationship. |
| 3. Responsiveness. | 4. Fellow-feeling. |

AESTHETICAL—

- | | |
|---------------|-------------|
| 1. Reality. | 2. Harmony. |
| 3. Imitation. | 4. Beauty. |

RELIGIOUS—

- | | |
|---------------|---------------|
| 1. Deity. | 2. Sonship. |
| 3. Sacrifice. | 4. Communion. |

ETHICAL—

- | | |
|-----------------|--------------|
| 1. Duty. | 2. Equity. |
| 3. Helpfulness. | 4. Goodness. |

PHILOSOPHICAL—

- | | |
|------------------|-----------------|
| 1. Generality. | 2. Correlation. |
| 3. Apperceiving. | 4. Continuity. |

LOGICAL—

- | | |
|------------------|---------------|
| 1. Universality. | 2. Congruity. |
| 3. Reasoning. | 4. Certainty. |

SCIENTIFIC—

- | | |
|-----------------|-------------------|
| 1. Materiality. | 2. Equilibration. |
| 3. Energising. | 4. Persistence. |

METAPHYSICAL—

- | | |
|-------------------|--------------|
| 1. Mentality. | 2. Unity. |
| 3. Self-Activity. | 4. Infinity. |

INSTITUTIONAL—

- | | |
|------------------|---------------|
| 1. Custom. | 2. Community. |
| 3. Co-operation. | 4. Loyalty. |

POLITICAL—

- | | |
|----------------|-----------------|
| 1. Law. | 2. Justice. |
| 3. Allegiance. | 4. Tranquility. |

ECCLESIOLOGICAL—

- | | |
|-------------|-------------------|
| 1. Creed. | 2. Belief. |
| 3. Worship. | 4. Steadfastness. |

of thought-relation, conscious or self-conscious, and that this core is manifested in three concentric circles of which thought-relation is the center. We may then imagine that the relational aspect is the central nervous system, and the circles the three peripheries of the body of which the outermost or epidermal is the structural occasion of sensation, the middle or meso-dermal is the physical basis of muscular or impulsive feeling and the innermost is the affective or ento-dermal aspect of consciousness. Representing by Π the psychological element we may call the central aspect Π_2 , and the peripheral elements, taken as a group, small p . We may further designate the sensational aspect as Π_1 , the impulsive as Π_3 , the affective as Π_4 . We shall call the central relational element Π_2 , when reference is not specifically made to the centrality of it. In the diagram (Table II) Π_2 is supposed to be placed in the spaces between the various peripheries. This indicates that the relation between one periphery and another is mediated by Π_2 .

This is true whatever the complexity of the peripheral elements, for the Sensational aspect of the higher instincts has its real cause for being in the central nuclear experience of the lower instincts. (Here we are speaking simply of scientific, empirical and occasional causation). Let it be noted that the Impulsive element partakes somewhat of the nature of both sensational and Affective—there are muscular sensations and muscular affects. It may be that this distinction is shown in the functional difference between striped and unstriped muscle. What is meant by Affect will probably not be known without fuller explanation than can be here given. The affect as here conceived seems to be close akin to what Lange and James call emotion. Representing by arrowheads the passage in experience from periphery to center and from center to periphery we may speak of the passage from periphery to center as direct or centripetal attention and the passage from center to periphery as indirect, reflective or centrifugal attention. The passage from an outer periphery to an inner one or vice versa gives us subsidiary forms of attention that are more or less reflex and automatic.

Reference has already been made to the fact (See Table I) that the "middle line" in development contains the intimate union of periphery and center and that the left side or intellectual development is predominantly central or relational while the right side or institutional is predominantly peripheral.

PSYCHOLOGICAL ASPECTS OF THE INSTINCTS.

In this section will be given some general illustrative examples of the psychological (central and peripheral) aspects of some of the instincts already discussed in the genetic treatment. These illustrations are not intended to be exact and are offered for the sake of concreteness in exposition in lieu of a more critical treatment than can be here attempted. This section is more useful for the first empirical stages in the study of children than as a proper detailed discussion of the instincts. The

**The Emotions, Showing Their Relations to the Instincts and
to Feeling.**

Expansile { Joy
 { Love } Normally Pleasurable.

Contractile { Grief
 { Fear } Normally Painful.

Tensile { Surprise
 { Anger } Normally Exciting.

PSYCHICAL EMOTIONS—

Joy, Grief, Surprise.

SOCIAL EMOTIONS—

Love, Fear, Anger.

numerals stand for the psychological aspects as given in the preceding section, although as above stated no attempt will be made to follow the central-peripheral scheme at all closely.

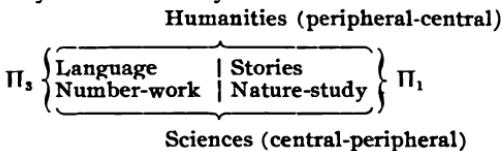
Biological Instincts. 1. Habits in regard to appetites, such as hunger and thirst (including peculiarities about eating and drinking, tastes, etc.). Desires for fresh air, breathing space, heat and cold (aversions always to be noted as well as desires, needs, etc.). 2. Habits in regard to waste, (bowels, kidneys, skin, lungs,) rest, sleep, (including dreams, nightmares, etc.) heat, (panting, etc.) cold, (shivering, crouching,) air, water. 3. Exercise and play, restlessness from confinement (clothes, rooms), "spontaneous movements," (Preyer) "motor exaggeration," "motor control." 4. Fatigue, quick and slow reaction, lasting power, "second wind," alertness and sluggishness, nervousness and irritability.

Psychical Instincts. 1. Need of new sensations, desire for facts as mere facts, delight in exercising the senses—taste, smell, touch, sight, hearing, temperature, liking for new experiences because they bring fresh sensations, even though these are painful—disagreeable smells, tastes, etc.; habits as to eating, drinking, bathing, etc. that would indicate preference in sensation; eye-images, ear-mindedness, etc. 2. Relation, need of perceiving new relations in things, without regard to their inner meaning; idle curiosity, time and space appreciation, aptness for measuring times or distances intuitively, ability to "size up" things as to more and less, smaller and larger, etc.; ability to associate facts, memories, experiences; knacks. 3. Impulse, need of showing energy, power, vitality, etc.; liking for laying down the law, bossing, bullying, indisposition to submit to authority [Here, as elsewhere, social and institutional factors, etc., are not excluded]; love of new impulses to do things; fondness for crankiness, freakiness; passions for hoarding, collecting; stubbornness, willfulness, obstinacy, leadership or subordination at school on the playground, at home, away from home; strenuousness in work and play; individual peculiarities in conduct that differentiate one child from others. 4. Affect, desire to cause a sensation, to be the center of interest, to impress other people, to see how it feels to do so and so; seeking excitement for its own sake; dread of ennui; love for feeling "queer," "creepy," "funny;" "emotionalism" that seems to be enjoyed; enjoyment in being a little sick or hurt; ability to locate "emotional" feelings (For example, "I feel funny in my stomach when I'm scared," etc.).

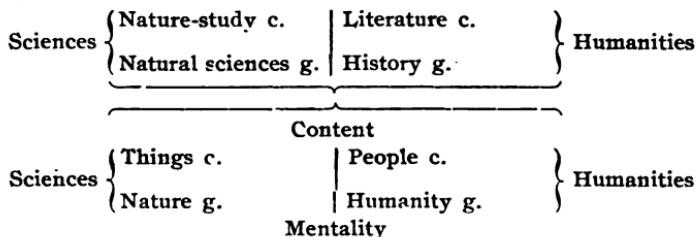
Social Instincts. 1. Need of companionship, desire to "have friends" without discrimination, dread of loneliness, "imaginary companions," companionship with lower animals, lifeless objects, etc., soliloquy, enjoyment in meeting new people, exclusiveness or gregariousness, or alternation of these. 2. Need of having relationships and of having them recognized, jealousy about members of family, friends, etc., friendliness, sporadic and permanent friendships, institutional feelings—

Diagram of the Course of Study as Founded Upon Psychological Aspects.

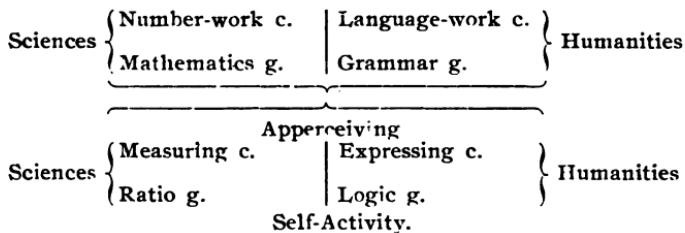
1. Primary Course of Study.



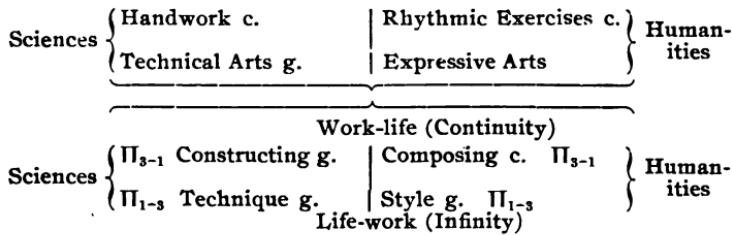
2. Content Studies and their relation to the Content aspect of Character.



3. Formal Studies and their relation to the Exercise Aspect of Character.



4. Practical (Content-Exercise) Studies and their relation to Work-life and Life-work.



school, family, church, town, class, etc., influence of absence upon friendship and "affection," weaving of relationships into spontaneous stories, etc., desire to make other people become friends to one another. 3. Need of help and helping, desire to work with others, to play with others, to form "schemes," "plots," etc., games that involve co-operation and division of labor, imitations of commercial and other co-operations, instances of co-operation (and of course the lack of it) at home, in school, on play-ground in imagination, etc. 4. Need of giving and receiving "sympathy;" sensitiveness to others' pains and pleasures, sorrows and joys; seeking company, relationship and co-operation for the sake of the social feeling they produce; shyness—general or discriminative; cordiality; sentimentality not easily traceable to æsthetical feelings; affectionateness.

Æsthetical Instincts. 1. Appreciation of natural objects, colors, tones, etc., satisfaction in largeness; admiration for solidity; delight in sky, ocean, woods, etc. (voluminous mass-effects that "saturate" the soul), longing for reality and substantiality in experience, desire for true stories, real heroes, etc.; efforts to conceive of God, angels, saints as "real people," love of ritual—(social, military, religious, etc.); love of dress and fashion; symbolism; "fetichism," love of places, homesickness; "seeing is believing" attitude. 2. Desire for (love of, delight in, appreciation of, etc.—so in other instincts and tendencies heretofore and hereafter mentioned) combinations of colors, sounds, tastes, etc., music, painting and other arts; symmetry, rhythmical movements like dancing, motion songs, etc., plots in stories, outcome of plays, games, etc., the "eternal fitness of things;" harmonizing experience; squaring experience with scientific principles, religious dogmas, authoritative explanations, deliverances of conscience; sensitiveness, seeing things as wholes, perfection feeling. 3. Idealizing things and people, "constructive imagination," hero-worship, artistic endeavors, imitation of heroes, attempts to do a duty or fill a station "just right," reaching after perfection—biological, psychical, social, religious, philosophical, ethical; holding on to an ideal and "biding one's time," *festina lente*; never "letting up," but never "driving the thing into the ground." 4. Manifestations of æsthetical delight, joy and their opposites, "drifting," "lotus-eating," "*dolce far niente*," amateurishness, dilettanteism, "art for art's sake," falling in love, sentimental friendships, etc.

Ethical Instincts. 1. Rights and duties, the "strait gate," conscientiousness, objective ethical obedience, mapping out conduct, love of commandments and the reverse, "hunger and thirst after righteousness. 2. Fairness, justice, "squareness," "full measure," insistence on each man's "holding up his end of the rope," "equality of opportunity," seeing the other side, dislike of favoritism, "paying back," "getting even, etc., "sowing the wind and reaping the whirlwind," reward and punishment, "the punishment fits the crime," retribution, atonement,

the Golden Rule. 3.: The "law of love," "by their fruits, etc.," active kindness, holding others dear, precious, valuable, etc., and striving accordingly to help them, "Faith without works is dead," love as the proof of discipleship, self-sacrifice because it's "worth while," vicarious sacrifice. 4. "The fruits of the spirit;" "rejoicing with those that rejoice," heartiness, cordiality, etc., good conscience, "Well done good and faithful servant," meekness, etc.

The Emotions and the Feelings.

The emotions are organic movements. If an organism moves as a whole it must expand or contract or become tense. The expansion may be "molecular" (Psychical) as when a piece of metal expands, or it may be "molar" (Social) as when a body moves in space. The typically expansive emotion of the molecular order is joy, of the molar order is love. When the self-forces of an organism become summated there is joy: when an organism expands towards another there is love.

Molecular contraction of the organism (or the self) is grief, sorrow depression; molar contraction is fear, which is a withdrawal from others. When the factors of consciousness are tense toward one another, when there is molecular oscillation of high velocity in the self as a whole we have surprise. Molar tensility is seen in anger where there is tension between persons. It will thus be seen that the molecular emotions are the more central while the molar are the more peripheral. Hence joy, sorrow and surprise are rather more intellectual in origin, while love, fear and anger are more easily excited by social causes. Love of the truth, for instance, is really molecular—a joyful state of mind. Only by endowing truth with personality can we ideally love it. Joy in religion, on the other hand, is only a corollary of the more fundamental emotional love. In the æsthetical and ethical instincts we find all of the emotions represented because these instincts include both the psychical and social ideas of character and because they are the truest expressions of that self-hood which is moved in emotion. The truest initiators of deep emotion are the self-instincts—the biological, the æsthetical, the ethical. It will be noted that the expansive emotions produce pleasure and that pleasure tends to bring about expansibility; that the contractile emotions tend to bring on pain and pain to produce the contractile emotions; that the tensile emotions are associated with excitement, and that excitement predisposes towards tensility. Here the office of feeling (pleasure, pain, excitement) as the medium produced by the organism in its functioning becomes at least a suggestive hypothesis. Feeling is not confined to the emotions, but is as well the result of all of our instinctive activities. Hence it may be that the diffusible feeling and instinctive guidance are the necessary conditions for the organic movement we call emotion. The normal cause of an emotion is to be found in changes, either in the psychical or social environment of the organism. When an organism manifests so-called instinctive or inher-

ited emotion there must nevertheless be some psychical or social change before the emotion can manifest itself.

Intellectual environment tends to encourage and regulate normal molecular emotions, institutional environment normal molar emotions. Hence in education we are able to induce and control emotion by a well-directed development of instinctive motives in their hierarchical subordination to one another and their allegiance to the conscience. Especially is it important, is it necessary to educate for health, taste and conscience.

The education of feeling gives us one more opportunity to make emotion normal and under the control of the instincts. Nurturing our instincts, training our habits, developing our aptitudes are processes accompanied by feelings appropriate to their activity. The self is apt to move in the right way when the line of least resistance is determined by instinctive tendencies and when the feeling results of the functioning of these tendencies furnish a suitable medium for the movements of the self. Strength of emotional reaction varies immensely in different people. Men may live equally well with much or with little of emotion, but all men must be guided by proper motives, and must move in an atmosphere of feeling where the parts of the organism and the parts of the environment are organically and intimately related to one another. Expansility must be associated with pleasure, contractility with pain, tensility with excitement, so that the self may not be divided against itself. Thus love, conscience and pleasure stand for the highest development of character if conscience guides, if its guidance results in pleasure, if the self consequently moves as a whole and from within towards others of its kind in the self-active communion of the kingdom of spirits.

As a matter of fact our daily experience is not made up of abstract instincts, emotions or feelings but rather of sentiments, passions, moods, attitudes and other character-states involving all three variables of character.

Explanation of the Diagram of the Course of Study

1. The first diagram of the Primary Course of Study indicates the relation of "Formal" to "Content" studies. The chief utility and the chief interest in formal studies in the primary work is in the exercise they give, hence they are marked Π_5 . Object interest characterizes the content studies and are marked Π_1 . Languages and Stories in the upper part of the diagram indicate the humanistic side of the Course of Study, and hence are peripheral-central or institutional in their teaching. Number-work and Nature-study represent the scientific side and are central-peripheral or predominantly intellectual in their influence.

2. The second diagram amplifies the content side of the Primary Course of Study and relates it to the content aspect of character. In

diagrams 2, 3, and 4 the upper studies and aspects respectively indicate the more concrete material (c.), while the lower pairs stand for the more generic (g.). This indicates the principle of Method—"from concrete to abstract; from generic to specific." It also indicates that the emphasis is laid at first rather on the concrete and later on the generic, but the concrete must be potentially generic and the generic must be inclusively concrete. In the second part of these diagrams the progress from concreteness to generality is indicated by terms borrowed from the relation of the philosophical to the metaphysical instincts (see Diagram I).

3. The third diagram of this series shows the relation of the exercise-studies to the impulse-interest (Π_3). Here again the concrete and generic relationship is indicated and the relation of the primary school to the higher school is suggested as in the other diagrams.

4. In the fourth diagram, the content and exercise interests, (Π_1 and Π_3) are supposed to be combined in the "practical" studies which are intended to express the "Development for Aptitude" or "Work-life" and "Life-work." This means from the psychological side that talent is quite internal in its manifestations, and that therefore the practical studies produce healthy affective results in character—the "tonicity of the soul." We must then expect to find both Π_1 and Π_3 elements in these "studies" and aspects. Thus in work-life we find the impulsive element in the foreground and the sensational or reality element in the background, whereas in life-work we find results and reality in the foreground and the impulsive aspects in the background.

NOTE.—For further explanation of the ideas involved in these diagrams, and further pedagogical principles connected with these Ethological outlines the reader is referred to an article in the *Northwestern Monthly* for November, 1897. This will be followed in the January number by a further brief treatment of the same subject: Ethology and Child-Study. Reference is here made to these articles because the scope of this report forbids specific pedagogical discussion.

